

Conforming Meter List – Firmware Version Updates

Revenue Metering Standing Committee Meeting - April 20, 2011
Settlements, Metering Installations



Conforming Meter List: Firmware Version Updates

Firmware Version Updates - Background

- Meter manufacturers routinely issue meter firmware version updates to address:
 - new meter hardware (e.g. modules & option boards)
 - meter software upgrades & bug fixes
 - new meter functionality (e.g. VA measurement; communicate meter data; collector node)
 - expanded feature set (e.g. wireless or Ethernet communications)
- CML firmware version submitted to IESO for approval may “leap-frog” over consecutive firmware versions (e.g. V3.03 to V4.02)



Firmware Version Updates

- Meter manufacturer submits completed “Conforming Meter List Application” listing model and firmware version; MC Notice of Approval revision
- Meter manufacturer submits a “Letter of Clarification”
 - State that **minimum meter hardware functionality** as per Wholesale Revenue Meter Standard – Hardware continues to be met as in previous conforming meter acceptance
 - State that new firmware version updates **do not affect** metrological functions, revenue measurement accuracy, nor revenue measurement security of meter



Firmware Version Updates cont'd

Meter manufacturer submits a “Letter of Clarification”

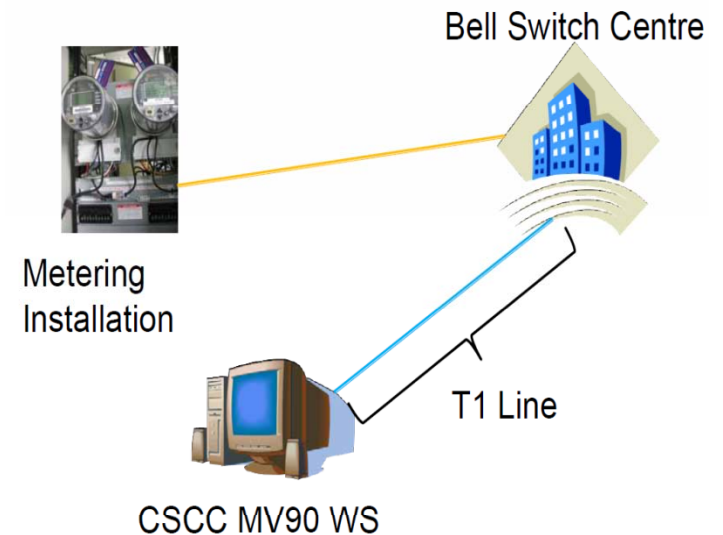
- State that functionality of new firmware version updates is supported by **IESO in-use TIM**. The TIM interface must continue to work as designed to be confirmed by MV90 vendor ITRON.
(e.g. download recorder interval data; meter encoder readings/recorder event logs; read/write functionality such as time reset)
- Else IESO may require bench testing to ensure MV90 system compatibility with no impact to existing meter approvals



Conforming Meter List: Firmware Version Updates

Revised Bench Test

- CML applicant provides a sample test meter. Meter voltage/current and power flow inputs are varied for each major test section for defined test interval
- CML applicant records meter register start/stop readings
- IESO interrogates and downloads interval/register readings at end of each major section test



Revised Bench Test cont'd

- Resulting CML Summary Package
 - i. Master/MIRT files
 - ii. NOA (Measurement Canada Notice of Approval)
 - iii. MV90 Comm log associated with Bench Test
 - iv. MV90 VA reports associated with Bench Test
 - v. Word document with all screen prints
 - vi. CML application
 - vii. Program Config Report
 - viii. Meter Framework Document
 - ix. MV90 data validation with vendor proprietary software
 - x. MV90 TIM/Config file setup

Meter manufacturer submits
“**Conforming Meter List Application**”

List of make, model, firmware version,
NOA revision

Meter manufacturer submits “**Letter of
Clarification**”

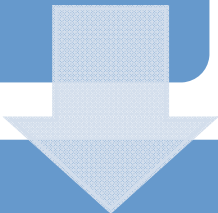
Statement of hardware functionality;
statements of no impact to previous meter
firmware versions/MV90 compatibility

IESO assesses document submissions for
acceptance; or requires a Bench Test

CML applicant provides sample conforming test meter



Meter voltage/current and power flow inputs are varied for each major section test

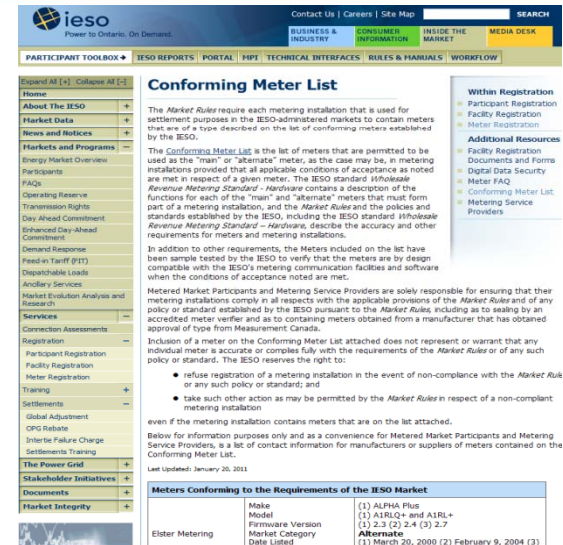


CML applicant records meter register readings. IESO interrogates /downloads interval and register readings.

Conforming Meter List: Firmware Version Updates

Firmware Version Updates – Acceptance

- More control of the acceptance processing is within the CML applicant's domain
- Expedited firmware version acceptance in a quicker timeframe is enabled
- Fallback to meter bench testing will ensure interface compatibility to IESO MV90 system



The screenshot shows the IESO website's 'Conforming Meter List' page. The page title is 'Conforming Meter List'. The main content area contains the following text:

The *Market Rules* require each metering installation that is used for settlement purposes in the IESO-administered markets to contain meters that are of a type described on the list of conforming meters established by the IESO.

The *Conforming Meter List* is the list of meters that are permitted to be used as the "main" or "alternate" meter, as the case may be, in metering installations provided that all applicable conditions of acceptance as noted are met in respect of a given meter. The IESO standard *Wholesale Revenue Metering Standard - Hardware* contains a description of the functions for each of the "main" and "alternate" meters that must form part of a metering installation, and the *Market Rules* and the policies and standards established by the IESO, including the IESO standard *Wholesale Revenue Metering Standard - Hardware*, describe the accuracy and other requirements for meters and metering installations.

In addition to other requirements, the Meters included on the list have been sample tested by the IESO to verify that the meters are by design compatible with the IESO's metering communication facilities and software when the conditions of acceptance noted are met.

Metered Market Participants and Metering Service Providers are solely responsible for ensuring that their metering installations comply in all respects with the applicable provisions of the *Market Rules* and of any policy or standard established by the IESO pursuant to the *Market Rules*, including as to sealing by an accredited meter verifier and as to containing meters obtained from a manufacturer that has obtained approval of type from Measurement Canada.

Inclusion of a meter on the Conforming Meter List attached does not represent or warrant that any individual meter is accurate or complies fully with the requirements of the *Market Rules* or of any such policy or standard. The IESO reserves the right to:

- refuse registration of a metering installation in the event of non-compliance with the *Market Rules* or any such policy or standard; and
- take such other action as may be permitted by the *Market Rules* in respect of a non-compliant metering installation.

Below for information purposes only and as a convenience for Metered Market Participants and Metering Service Providers, is a list of contact information for manufacturers or suppliers of meters contained on the Conforming Meter List.

Last updated: January 20, 2011

Meters Conforming to the Requirements of the IESO Market		
Make	Model	(1) ALPHA Plus (2) AERLQ and ARL+ (3) 2.3 (2) 2.4 (3) 2.7
Elster Metering	Firmware Version Market Category Date Listed	Alternate (1) March 20, 2000 (2) February 9, 2004 (3)